Nexyad and HERE improve vehicle safety with next generation, cognitive artificial intelligence

- *Nexyad aggregates extensive data sources in a vehicle, including HERE data, in real time to assess driving behaviour given the surrounding context*
- *Based on this assessment, Nexyad recommends a maximum speed and delivers a driving score*
- *Nexyad's technology is already being used by Brightmile in the UK, Montbleu in India and Milla in France*

July 6, 2021

Paris and Amsterdam – Nexyad, the embedded, real-time platform for aggregating on-board data, and HERE Technologies, the leading location data and technology platform, are now working together to apply cognitive AI to road safety.

On-board data

Nexyad uses cognitive AI to aggregate extensive data sources in a vehicle in real time and interprets them to assess whether a certain driving behaviour is appropriate given the surrounding context. Nexyad's assessment, that can easily be delivered to a driver via a mobile phone, can be calculated from four sets of data only: HERE map, Global Navigation Satellite System, electronic horizon and acceleration. Nexyad's platform is also scalable and can aggregate data from Advanced Driving Assistant Systems (ADAS) sensors to include camera, radar and lidar, weather (visibility and temperature), and traffic data.

Maximum speed recommended for a specific vehicle at a specific time

Nexyad's real-time data aggregation platform provides two output values 20 times every second: the lack of caution of the driver and the maximum speed recommended given the road conditions – legal speed limit, road roughness, topography of the road, weather, and traffic. Nexyad bases its analysis on several thousand road accident reports, using a set of rules from modern hybrid AI which includes knowledge-based systems, deep learning, neural gas, PAC (Possibly Approximatively Correct) learning, game theory, reinforcement learning, possibility theory and fuzzy logic.

By recommending a "maximum cautious speed" based on real-time data and context-specific to every single vehicle, driver and driving environment, Nexyad's approach goes much further than the European requirement for vehicles to be aware of the legal speed limit on each road segment (Intelligent Speed Assist). Nexyad's safety coach called SafetyNex acts as a true co-pilot for the driver as it provides real-time guidance so as to anticipate possible emergency situations ahead

that may lead to an accident. This proactive coaching activates while driving and has been demonstrated to reduce accident rates by at least 25%[1].

A risk score for drivers and autonomous shuttles

Nexyad provides drivers with a score that reflects the risk associated with their driving behavior. Nexyad's platform is being used by insurers to provide recommendations to drivers and generate a risk profile. For example, Brightmile, a start-up incubated by Kamet, AXA's insurer tech studio, is using Nexyad's SafetyNex software as one of the parameters of their smartphone-based telematics solutions for fleets. India's Montbleu also relies on Nexyad's SafetyNex for its smartphone-based app 'ROAD-Drive it Safe'. Milla, the French autonomous electric shuttle, uses SafetyNex to adapt vehicle speeds according to driving conditions and alerts the service operator (on-board and/or off-board) to take appropriate action when the level of risk is estimated too high.

Nexyad has started to integrate the HERE HD Live Map to provide OEMs with Predictive Automotive Cruise Control services whereby appropriate speeds are not only being recommended but automatically implemented. Moving forward, connected vehicles will use SafetyNex to assess the level of caution of their own driving and will be able to adopt the appropriate speed even in unknown road conditions.

"We found that the maps from HERE are accurate to the centimetre and constantly updated to the second. Every detail counts for us - the topography of the road, the exact positioning of the crossing, the location of a school. With our mission being to save lives, we cannot settle for anything less than the best," says Gérard Yahiaoui, CEO of Nexyad.

"Nexyad's SafetyNex software is one of a kind – not only does it provide a score for the lack of caution of the driver, based on the environment in real time, it also recommends an appropriate driving speed. This is the future for Predictive Automotive Cruise Control systems, insurers and autonomous vehicles," says Gilles Martinelli, Director of Automotive at HERE Technologies.

Demos of Nexyad's safety coach SafetyNext can be found here and here.

Media Contacts

Adrianne Montgobert
+49 151 72 11 67 81
adrianne.montgobert@here.com

Gerard Yahiaoui
gyahiaoui@nexyad.net

About HERE Technologies
HERE, a location data and technology platform, moves people, businesses and cities forward by harnessing the power of location. By leveraging our open platform, we empower our customers to achieve better outcomes - from helping a city manage its infrastructure or a business optimize its assets to guiding drivers to their destination safely. To learn more about HERE, please visit here.com and 360.here.com

[1] *Impact assessment on road accident rate reduction of NEXYAD cognitive AI SafetyNex, available on demand.*

About Nexyad

Nexyad is a Paris-based AI start-up founded by former professors and researchers of AI and applied maths, specialized in road safety. We propose a unique next generation hybrid cognitive AI that improves road safety, avoids emergency situations and road accidents, and saves lives. We help our customers integrate our technology into their valuable products for insurance & fleets, for automotive Safety Coach or Predictive ACC, and for Autonomous Vehicles « aware » of their level of caution in driving regarding context and able to adapt to unknown situations to keep caution level high enough.